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**TRANSMITTAL LETTER**

**APPEAL BRIEF**

Applicant : Ljungstroem, et al.  
App. No : 09/380,412  
Filed : January 19, 2000  
For : CORDLESS COMMUNICATION  
SYSTEM COMPATIBLE WITH A  
PUBLIC MOBILE COMMUNICATION  
SYSTEM  
Examiner : Naghmeh Mehrpour  
Art Unit : 2686

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March 9, 2006

(Date)

John M. Carson, Reg. No. 34,303

**Mail Stop Appeal Brief - Patents**

Commissioner for Patents

P.O. Box 1450

Alexandria, VA 22313-1450

Sir:

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Attorney of Record  
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PATENT

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Appellant : Ljungstroem, et al.  
Appl. No. : 09/380,412  
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**ON APPEAL TO THE BOARD OF PATENT APPEALS AND INTERFERENCES**  
**APPEAL BRIEF**

Mail Stop Appeal Brief -- Patents  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Dear Sir:

This Appeal Brief relates to an appeal to the Board of Patent Appeals and Interferences of the final rejection set forth in a final Office Action mailed May 20, 2005 in the above-captioned application.

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### **I. REAL PARTY IN INTEREST**

The real party in interest in this appeal is the assignee of this application, T-MOBILE DEUTSCHLAND GMBH.

### **II. RELATED APPEALS AND INTERFERENCES**

Appellant is unaware of any related appeals or interferences.

### **III. STATUS OF CLAIMS**

The application was originally filed with Claims 1-11, and a preliminary amendment filed with the application, which canceled Claims 1-11 and added Claims 12-22. In response to the **third** Office Action, mailed October 2, 2002, Claims 12 and 20 were amended to clarify the claim language in response to a rejection of the claims under 35 U.S.C. § 112 for indefiniteness. In response to the **fourth** Office Action, mailed March 27, 2003, Claims 12, 20, and 21 were amended to recite additional features not found in the prior art of record, and Claims 23-26 were added. In response to the **fifth** Office Action, making the rejection of Claims 12-26 final, Appellant filed a Request for Continued Examination amending Claims 12, 20, 25, and 26, and adding Claim 27. In response to the **seventh** Office Action, Claims 12-17, 20, 21, and 23-27 were amended to recite that the mobile communication system is a cellular communication system, and that the identification module is a subscriber identity module.

In the **eighth** and Final Office Action of May 20, 2005, the Examiner finally rejected Claims 12-27. Appellant submitted an amendment to Claim 20 under 37 C.F.R. § 41.33 on November 17, 2005 to put the claim in better form for appeal. Specifically, the submitted amendment to Claim 20 cures an antecedent basis problem. Thus, Claims 1-11 are canceled and Claims 12-27 are before the Board as finally rejected. Claims 12-27 are being appealed and are reproduced and attached as Claims Appendix.

### **IV. STATUS OF AMENDMENTS**

Appellant submitted an amendment to Claim 20 under 37 C.F.R. § 41.33 on November 17, 2005 to put the claim in better form for appeal. Specifically, the submitted amendment to Claim 20 cures an antecedent basis problem. The amendment has not yet been acted upon by the Examiner, and is, therefore, unentered. All other offered amendments have

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been entered. Thus, Claims 12-27 appear before the Board as they were finally rejected and, and the claims are attached hereto as Claims Appendix.

## **V. SUMMARY OF CLAIMED SUBJECT MATTER**

As described in the application as filed, embodiments of the invention include methods and systems for operating a cordless communication system wherein a mobile terminal of a public cellular communication system can communicate with a base station of the cordless communication system, wherein the base station is connectable to a public fixed network and compatible with the cellular communication system. *See Application at p. 1, ll. 5-6, ll. 24-29.* The base station of the cordless communication station includes a read/write device which enables the base station to obtain information and transfer information to identification modules, such as subscriber identity modules. *See Application at p. 2, ll. 1-5.* Thereby, the base station of the cordless communication system can perform the functions of a base station of a mobile communication network with authentication functions. *See Application at p. 2, ll. 6-10.*

Claim 12 recites a method of operating a cordless communication system, wherein the cordless communication system comprises a mobile terminal of a public cellular communication system, and a base station which is connectable to the public fixed network and compatible at an air interface with the cellular communication system, wherein the base station has at least one authentication function. *See Application at p. 2, ll. 18-23; p. 5, ll. 4-8, 14-22, 24-29; Figures 1, 2.* The method comprises reading and writing from and to at least a first subscriber identity module through a read and write unit of the base station. *See Application at p. 2, ll. 1-5; p. 5, ll. 14-15.* Sections of data of the first subscriber identity module used in the base station are identical to sections of data stored on a second subscriber identity module of a mobile terminal authorized to access the public cellular communication system. *See Application at p. 3, ll. 25-29; p. 5, ll. 23-25.*

The method of operation of the cordless communication system further comprises processing data read from the first subscriber identity module through software implemented in the base station, using a random number generated at the base station, so as to generate a first authentication result. *See Application at p. 2, l. 26 – p. 3, l. 1; p. 6, ll. 1-3.* The method also comprises processing data read from the second subscriber identity module, using the random number generated at the base station, so as to generate a second authentication result. *See*

*Application at p. 2, l. 30 – p. 3, l. 3; p. 3, ll. 6-8.* The mobile terminal is authenticated with regard to the base station through the first authentication result and the second authentication result. *See Application at p. 3, ll. 3-5; p. 6, ll. 1-5.* In one example, software at the base station generates a random number, and the base station determines a first authentication result based on the generated random number and a key stored in the first subscriber identity module using a predetermined algorithm. Similarly, the mobile terminal determines a second authentication result based on the random number generated at the base station and a key stored in the second subscriber identity module using the predetermined algorithm. When the keys stored in the first and second subscriber identity modules are the same, the first and second authentication results will be equivalent when compared at the base station. *See Application at p. 2, l. 30 – p. 3, l. 5.*

Thereby, the base station fulfills the same functions and tasks with respect to access control and authentication as a home location register and, respectively, an authentication center of the public cellular communication system, wherein the authentication is performed without accessing a home location register in the public cellular communication system. *See Application at p. 2, ll. 5-12, ll. 19-23, 26-30; p. 5, ll. 16-22; Figure 1.* Finally, the method of operation comprises operating the mobile terminal through the public fixed network if the authentication has been successful. *See Application at p. 5, ll. 20-22; p. 6, ll. 3-5.*

The cordless communication system of Claim 20 is configured for the operation of a mobile terminal of a cellular communication system with a base station that is connected to a public fixed network, wherein the base station is also compatible at an air interface with the cellular communication system and has at least one authentication function. *See Application at p. 2, ll. 18-23; p. 5, ll. 4-8, 14-22, 24-29; Figures 1, 2.* The base station comprises a read/write unit configured to read and write information to and from, respectively, at least a first subscriber identity module. *See Application at p. 2, ll. 1-5, ll. 18-19; p. 5, ll. 14-15.* Sections of data of the first subscriber identity module used in the base station are identical to sections of data on a second subscriber identity module of a mobile terminal authorized to access the cellular communication system. *See Application at p. 3, ll. 25-29; p. 5, ll. 23-25.*

The cordless communication system of Claim 20 (as amended in the November 17, 2005 amendment) further comprises software implemented in the base station for processing data read from the first subscriber identity module and for authenticating the mobile terminal relative to the base station through the processed data based on the first subscriber identity module. *See*

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*Application at p. 2, ll. 5-10, l. 26 – p. 3, l. 1; p. 6, ll. 1-3.* The base station fulfills the same functions and tasks with respect to access control and authentication as the home location register and, respectively, the authentication center of the cellular communication system without accessing a home location register in the cellular communication system. *See Application at p. 2, ll. 6-10, ll. 19-23, ll. 26-30; p. 5, ll. 16-22; Figure 1.* Thereby, the mobile terminal is authenticated by the base station of the cordless system and not by the cellular network while maintaining the security features typically provided by the cellular network. The base station uses the processed data based on the first subscriber identity module and an authentication result generated by processing data read from the second subscriber identity module for authentication of the mobile terminal. *See Application at p. 3, ll. 3-5; p. 6, ll. 1-5.*

Claim 25 recites a method of operating a cordless communication system, wherein the system comprises a mobile terminal of a public cellular communication system and a base station which is connectable to a public fixed network. *See Application at p. 2, ll. 18-23; p. 5, ll. 4-8, 14-22, 24-29; Figures 1, 2.* The base station is compatible at an air interface with the public cellular communication system and includes at least one authentication function. The method comprises reading and writing from and to, respectively, at least a first identification module through a read and write unit of the base station. *See Application at p. 2, ll. 1-5; p. 5, ll. 14-15.* A secret key is stored on both the first identification module and a second identification module of a mobile terminal authorized to access the public cellular communication system. *See Application at p. 2, l. 30 – p. 3, l. 1; p. 5, ll. 9-13, ll. 20-25.*

The method of operation further comprises generating a random number and generating a first authentication result based on the random number and the secret key using a ciphering algorithm at the base station (*Application at p. 2, l. 26 – p. 3, l. 1; p. 6, ll. 1-3*), and generating a second authentication result based on the random number and the secret key using a ciphering algorithm at the access-authorized mobile terminal (*Application at p. 2, l. 30 – p. 3, l. 3; p. 3, ll. 6-8*). The mobile terminal is authenticated with regard to the base station through the first and second authentication results such that the mobile terminal authenticates directly with the base station. *See Application at p. 3, ll. 3-5; p. 6, ll. 1-5.* Thereby, the base station fulfills the same functions and tasks with respect to access control and authentication as a home location register and, respectively, an authentication center of the public cellular communication system, wherein the authentication is performed without accessing a home location register in the public cellular

communication system. *See Application at p. 2, ll. 5-12, ll. 19-23, 26-30; p. 5, ll. 16-22; Figure 1.* The mobile terminal is operated through the public fixed network if the authentication has been successful. *See Application at p. 5, ll. 20-22; p. 6, ll. 3-5.*

Claim 26 recites a method of operating a cordless communication system, wherein the system comprises a mobile terminal of a public cellular communication system and a base station which is connectable to a public fixed network. *See Application at p. 2, ll. 18-23; p. 5, ll. 4-8, 14-22, 24-29; Figures 1, 2.* The base station is compatible at an air interface with the public cellular communication system and includes at least one authentication function. The method comprises transmitting a specific identification periodically from the base station to indicate presence and readiness for operation during a standby mode. *See Application at p. 5, ll. 27-29 Figure 1.* The method also comprises reading and writing from and to, respectively, at least a first identification module through a read and write unit of the base station. *See Application at p. 2, ll. 1-5; p. 5, ll. 14-15.* Sections of data of the first identification module used in the base station are identical to sections of data stored on a second identification module of a mobile terminal. *See Application at pp. 3-4, ll. 30-4; p. 3, ll. 27-29; p. 5, ll. 23-25; Figures 1, 2.* The mobile terminal is authorized to access the public cellular communication system. *See Application at p. 2, ll. 10-12; p. 3, ll. 27-29; p. 5, ll. 9-10; Figures 1, 2.*

The method of operation further comprises processing data read from the first identification module through software implemented in the base station so as to generate a first authentication result. *See Application at p. 4, ll. 17-19; p. 5, ll. 14-22; Figures 1, 2.* The method also comprises processing data read from the second identification module so as to generate a second authentication result. *See Application at pp. 2-3, ll. 30-3.* The mobile terminal is authenticated with regard to the base station through the first and second authentication results. *See Application at p. 3, ll. 3-5; p. 6, ll. 1-5.* Thereby, the base station fulfills the same functions and tasks with respect to access control and authentication as a home location register and, respectively, an authentication center of the public cellular communication system, wherein the authentication is performed without accessing a home location register in the public cellular communication system. *See Application at p. 2, ll. 5-12, ll. 19-23, 26-30; p. 5, ll. 16-22; Figure 1.* The mobile terminal is operated through the public fixed network if the authentication has been successful. *See Application at p. 5, ll. 20-22; p. 6, ll. 3-5.*



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Claim 27 recites a method of operating a cordless communication system, wherein the system comprises a mobile terminal of a public cellular communication system and a base station which is connectable to a public fixed network. *See Application at p. 2, ll. 18-23; p. 5, ll. 4-8, 14-22, 24-29; Figures 1, 2.* The base station is compatible at an air interface with the public cellular communication system and includes at least one authentication function. The method comprises reading and writing from and to, respectively, at least a first subscriber identity module (SIM) card through a read and write unit of the base station. *See Application at p. 2, ll. 1-5; p. 5, ll. 14-15; p. 2, ll 1-4.* Sections of data of the first SIM card used in the base station are identical to sections of data stored on a second SIM card of a mobile terminal. *See Application at pp. 3-4, ll 30-4; p. 3, ll 27-29; p. 5, ll 23-25; p. 2, ll 1-4; Figures 1, 2.* The mobile terminal is authorized to access the public cellular communication system. *See Application at p. 2, ll. 10-12; p. 3, ll 27-29; p. 5, ll. 9-10; Figures 1, 2.*

The method of operation further comprises processing data read from the first SIM card through software implemented in the base station, using a random number generated at the base station so as to generate a first authentication result. *See Application at p. 2, ll 1-4; pp. 2-3, ll 30-3; p. 4, ll 17-19; p. 5, ll. 14-22; Figures 1, 2.* The method also comprises processing data read from the second SIM card, using the random number generated at the base station, so as to generate a second authentication result. *See Application at pp. 2-3, ll 30-3.* The mobile terminal is authenticated with regard to the base station through the first and second authentication results. *See Application at p. 3, ll. 3-5; p. 6, ll. 1-5.* Thereby, the base station fulfills the same functions and tasks with respect to access control and authentication as a home location register and, respectively, an authentication center of the public cellular communication system. *See Application at p. 2, ll. 5-12, ll. 19-23, 26-30; p. 5, ll. 16-22; Figure 1.* The mobile terminal is operated through the public fixed network if the authentication has been successful. *See Application at p. 5, ll. 20-22; p. 6, ll. 3-5.*

## **VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL**

(1) Claims 12-20, 22, and 25 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,360,091 to Schellinger, et al. in view of U.S. Patent

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No. 6,134,438 to Sawyer, et al. and U.S. Patent No. 5,748,621 to Masuda, et al., and further in view of U.S. Patent No. 5,617,467 to Bacher, et al.;

(2) Claims 21, 23, and 24 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,360,091 to Schellinger, et al., U.S. Patent No. 6,134,438 to Sawyer, et al., U.S. Patent No. 5,748,621 to Masuda, et al. in view of U.S. Patent No. 5,617,467 to Bacher, et al., and in further view of U.S. Patent No. 6,167,271 to Parker, et al.;

(3) Claim 26 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,360,091 to Schellinger, et al. in view of U.S. Patent No. 6,134,438 to Sawyer, et al., in further view of U.S. Patent No. 5,617,467 to Bacher, et al.; and

(4) Claim 27 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,167,271 to Parker, et al. in view of U.S. Patent No. 5,748,621 to Masuda, et al.

## **VII. ARGUMENT**

I. Rejections under 35 U.S.C. § 103(a) over U.S. Patent Nos. 6,360,091; 6,134,438; 5,748,621; and 5,617,467

### **A. Claims 12-20, 22 are Patentable over the Combination of Schellinger, Sawyer, Masuda, and Bacher**

#### **1. The Examiner's Grounds for Rejection**

Regarding Claims 12, 13, and 20, the Examiner stated that "Schellinger teaches a cordless communication system for the operation of a mobile terminal of a **cellular** communication system with a base station that is connected to a public fixed network and that is compatible at an air interface with the mobile communication system that has at least one authentication function cordless communication system (col. 3, lines 32-40) ... ." *Final Office Action at page, 2, para. 3 (emphasis in original).*

The Examiner recognized that "Schellinger fails [to teach] reading and writing from to, at least one a first identification module, wherein sections of data of the identification module through, wherein the section of the first **subscriber identity** module (mobile) used in the base station is identical to the section of a second **subscriber identity** module of a **mobile authorized to access the public cellular communication system**; processing data read from the

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first **subscriber identity** module ... ; processing data read from the second **subscriber identity** module ... ; authenticating the mobile terminal ... ." *Final Office Action at page 2, para.4 - page 3, para. 3 (bolded emphasis in original).*

However, the Examiner stated that "Sawyer teaches a mobile communication system comprising: at least one a first identification module, wherein sections of data of the identification module through, wherein the section of the first identification module (mobile) (col 4 lines 23-50) used in the base station is identical to the section of a second identification module of an access-authorized mobile terminal (col 4, lines 23-50); processing data read from the first identification module through software implemented in the base station, using a random number generated at the base station, so as to generate a first authentication result (col 8 lines 23-42); authenticating the mobile terminal with regard to the base station through the first authentication result and the second authentication result (col 4 lines 23-50); wherein the base station fulfills the same functions and tasks with respect to access control and authentication as the home location register (col 4 lines 23-50), and respectively, the authentication center of the mobile communication system (col 8 lines 23-40), and wherein the authentication is performed without accessing a home location register in a mobile communication system (see figure 1, col 4 lines 23-50)." *Final Office Action at page 3, para. 4 – page 4, para. 1.*

The Examiner argued that "[t]herefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the above teaching Sawyer with Schellinger cordless Base Station, in order to provide a system, which allows use of the common local control features." *Final Office Action at page 4, para. 1 (emphasis added).*

The Examiner recognized that "Schellinger modified by Sawyer fails to that [sic] the processing data read from the second identification module, using the random number generated at the base station, so as to generate a second authentication result." *Final Office Action at page 4, para. 2 (emphasis added).* The Examiner further stated, however, that "Masuda teaches a method of processing data read from the second identification module, using the random number generated at the base station, so as to generate a second authentication result (col 8 lines 23-32). *Final Office Action at page 4, para. 2.* The Examiner asserted that "[t]herefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the above teaching Masuda with Schellinger cordless Base Station modified by Sawyer systems, in order to prove authentication method which does not require any means for storing an authentication

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random number corresponding each mobile station and also provide an advance authentication calculation result.” *Id.* (emphasis added).

The Examiner further recognized that “Schellinger modified by Sawyer and Masuda does not specifically mention a read/write unit exists within the base station configured to read and write information from/to, and processing data read from the identification module through software implemented in the base station.” *Final Office Action at page 4, para. 3.* The Examiner also stated, however, that “Bacher teaches a read/write unit within a Base Station, is configured to read/write information from/to, and processing data read from the identification module through software implementing in the base station (col 5 lines 45-55).” *Final Office Action at page 5, para. 1* The Examiner thus argued that “it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the above teaching of Bacher with Schellinger cordless Base Station modified by Masuda, in order to provide more flexibility for the wireless communication system.” *Id.* (emphasis added).

## **2. The Legal Standard**

To establish a *prima facie* case of obviousness, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings, and the prior art references, when combined, must teach or suggest all the claim limitations. M.P.E.P. § 2143. Also, the teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, not in applicant’s disclosure. *In re Vaeck*, 947 F.2d 488, 20 U.S.P.Q.2d 1438 (Fed. Cir. 1991).

## **3. Sawyer Fails to Teach Subscriber Identity Modules**

Sawyer fails to teach first and second subscriber identity modules, wherein “sections of data of the first subscriber identity module used in the base station are identical to sections of data stored on [the] second subscriber identity module of a mobile terminal ... .” The Examiner cited to col. 4, lines 23-50 of Sawyer as reciting a first identification module. The cited passage, however, recites that the system receives first and second identification codes from a mobile station, and that the system determines if the first identification code is contained in a list stored within a data base of the system. If the first identification is contained within the list, the system determines whether the value of the second identification code is within a range of numbers associated with the first identification code and stored within the list. Sawyer makes no mention

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in this passage, or in the entirety of the reference, of an identification module at a base station, or more specifically of a subscriber identity module. The recitation of a “list stored within a data base of the system” cannot properly be construed as a subscriber identity module as recited in the claims.

In addition, the Examiner did not assert that any of the prior art of record teaches first and second *subscriber identity* modules, but that Sawyer teaches first and second identification modules. However, Sawyer similarly fails to teach first and second identification modules.

**4. Sawyer Fails to Teach Processing Data in the Manner Claimed**

Sawyer describes a system for use during the registration of mobile stations which allows support of local control features in a newly accessed system. A mobile station sends a registration message to the system, wherein the message comprises first and second identification codes. The system determines whether the first identification code is contained in a list stored at a database within the system, and if the first identification code is not on the list the mobile station does not support common local control features. However, if the first identification code is on the list, the system determines whether the value of the second identification code is within a range of numbers associated with the first identification code and also stored within the list. If the second identification code is within the specified range, this indicates that the mobile station and system support common local control features. *Sawyer at col. 4, lines 24-49.*

Sawyer fails, however, to describe processing data read from a first subscriber identity module through software implemented in the base station, using a random number generated at the base station, so as to generate a first authentication result, as recited in Claim 12. The passage in Sawyer cited by the Examiner in support of the teaching of this element of the claim discusses the conditions upon which a mobile station is instructed to register with a local system. There is no discussion of processing data as recited in Claim 12.

Sawyer also fails to teach or suggest “authenticating the mobile terminal with regard to the base station through the first authentication result and the second authentication result”. As stated in the Office Action, Sawyer fails to teach “processing data ... so as to generate a second authentication result.” *Final Office Action at page 4, para. 2.* Thus, Sawyer *cannot* teach “authenticating ... through the first authentication result *and the second authentication result*” as recited in Claim 12.

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Furthermore, Sawyer fails to teach that “the base station fulfills the same functions and tasks with respect to access control and authentication as a home location register and, respectively, an authentication center of the public cellular communication system ...”, as recited in Claim 12 and similarly in Claim 20. The system described by Sawyer does not facilitate *authentication* but rather *registration*, and the registration functions are described as performed generally by the “system” (*see col. 4, lines 23-50*), and specifically by the mobile station switching center MSC for each system (*see col. 12, lines 9-60; Fig. 7A*), *not the base station*.

#### **5. There Is No Motivation to Combine Sawyer**

Appellant also respectfully submits that there is no motivation or teaching in either Schellinger or Sawyer to combine the teachings of Sawyer and Schellinger as suggested by the Examiner. The Examiner argued that “it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the [identified teachings of] Sawyer with Schellinger cordless Base Station, in order to provide a system, which allows use of the common local control features.” *Final Office Action at page 4, para. 1.*

It is impermissible to use the claimed invention as an instruction manual or “template” to piece together the teachings of the prior art so that the claimed invention is rendered obvious. *In re Fritch*, 23 U.S.P.Q.2d 1780, 1784 (*Fed. Cir. 1992*). Determination of obviousness cannot be based on the hindsight combination of components selectively culled from the prior art to fit the parameters of the patented invention. There must be a ***teaching or suggestion within the prior art***, or within the general knowledge of a person of ordinary skill in the field of the invention, to look to particular sources of information, to select particular elements, and to combine them ***in the way they were combined by the inventor***. *ATD Corp. v. Lydall, Inc.*, 48 U.S.P.Q.2d 1321, 546 (*Fed. Cir. 1998*) (*emphasis added*).

In support of the Examiner’s combination of Sawyer with the selected teachings of Schellinger, the Examiner has simply recited a feature taught by Sawyer, i.e., the use of common local control features. Appellant respectfully submits that a technical feature of a prior art reference *itself* is not a teaching or suggestion to combine that feature with teachings of another reference to arrive at a claimed invention. The Examiner has merely selected features from Sawyer to combine with Schellinger using Appellant’s claims as a template. Thus, Appellant respectfully submits that the Examiner has failed to point to any teaching or suggestion to

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combine the relevant teachings of Sawyer with those of Schellinger to arrive at the combination recited by the Examiner.

**6. Masuda Fails To Teach Subscriber Identity Modules**

Masuda fails to teach a second subscriber identity module, wherein “sections of data of the first subscriber identity module used in the base station are identical to sections of data stored on [the] second subscriber identity module of a mobile terminal” as recited in Claim 12, and similarly in Claim 20.

The Examiner cited to the passage at col. 8, lines 23-32 of Masuda as teaching a second identification module. However, the passage cited by the Examiner recites that a cell station 100 issues an authentication random number and transmits it to a calling personal station 200. The calling personal station 200 uses its own authentication key to code the random number and uses an authentication response message to communicate an authentication calculated result to the cell station. There is no mention in this passage of Masuda, or anywhere in the reference, of a subscriber identity module at the personal station 200, and the authentication key at the personal station 200 cannot properly be construed as a subscriber identity module as recited in the claims.

Masuda neither teaches nor suggests a second subscriber identity module as recited in Claims 12 and 20.

**7. Masuda Also Fails to Teach Processing Data in the Manner Claimed**

Masuda fails to teach or suggest “processing data read from the second subscriber identity module, using the random number generated at the base station, so as to generate a second authentication result” as recited in Claim 12, and “using ... an authentication result generated by processing data read from the second subscriber identity module” as recited in Claim 20.

Masuda describes a system wherein the “cell” station 100 issues and transmits an authentication random number to a calling personal station 200. *Masuda at col. 8, lines 24-27.* The calling personal station 200 then uses its own authentication key to code the random number and generate an authentication calculated result, and uses an authentication response message (MM) to send the authentication calculated result to the “cell” station 100. *Col. 8, lines 27-31.* However, there is no teaching or suggestion in Masuda that the authentication key is stored in or read from a subscriber identity module.

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**8. There is no Motivation to Combine Masuda**

The Examiner stated that “it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the above teaching Masuda with Schellinger cordless Base Station modified by Sawyer systems, in order to provide authentication method which does not require any means for storing an authentication random number corresponding to each mobile station and also provide an advance authentication calculation result.” *Final Office Action at page 4, para. 2.*

As stated above, determination of obviousness cannot be based on the hindsight combination of components selectively culled from the prior art to fit the parameters of the patented invention. There must be a *teaching or suggestion within the prior art*, or within the general knowledge of a person of ordinary skill in the field of the invention, to *look to particular sources of information, to select particular elements, and to combine them in the way they were combined by the inventor*. *ATD Corp. v. Lydall, Inc.*, 48 U.S.P.Q.2d1321, 546 (Fed. Cir. 1998) (*emphasis added*).

In regard to a teaching or suggestion to combine selected features of Masuda with those selected from Schellinger and Sawyer, the Examiner has simply identified a feature or advantage of the combination rather than a *teaching or suggestion to select particular elements and combine them in the way they were combined by the inventor*. The suggested combination is merely a compilation of elements selectively culled from the prior art to meet the elements of the claimed invention. Thus, Appellant respectfully submits that the Examiner has failed to point to any teaching or suggestion in the prior art to combine the teachings of Masuda with those of Schellinger and Sawyer as suggested by the Examiner.

**9. Bacher Fails to Teach a Read and Write Unit As Configured**

Bacher fails to teach reading and writing from and to a first subscriber identity module through a read and write unit of a base station. Bacher teaches a communication system for connection to a base station of a multi-cellular wireless telephone system, wherein the base station includes a read-write memory (RAM). *Col. 5, lines 50-55; Fig. 1*. There is no mention in Bacher that the RAM is not configured to read and write information from and to an identification module at the base station, or more particularly, a subscriber identity module. Appellant respectfully submits that the “read-write memory RAM” described by Bacher (*col. 5, lines 50-55*) cannot be properly construed as a read and write unit for reading and writing to a



subscriber identity module. Furthermore, Bacher fails to cure the deficiencies of Schilling, Sawyer, and Masuda.

**10. There Is No Motivation to Combine Bacher**

Appellant also respectfully submits that there is no motivation or teaching in either Schellinger, Sawyer, Masuda, or Bacher to combine the teachings of Bacher with the other three (3) references as suggested by the Examiner. The Examiner argued that “[u]sing readable/writable memory instead of readable memory within the base station, provides more variety to the user, for example enabling the user to use multiple handsets with one base”, and that “[t]herefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the above teachings of Bacher with Schellinger cordless Base Station modified by Masuda, in order to provide more flexibility for the wireless communication system.”

It is well-settled that “a showing of a suggestion, teaching, or motivation to combine [or modify] the prior art references is an ‘essential component of an obviousness holding’.” *C.R. Bard, Inc. v. M3 Systems, Inc.*, 157 F.3d 1340, 1352 (Fed. Cir. 1998). The Examiner can satisfy the burden of showing obviousness of the combination or modification “only by showing some objective teaching in the prior art or that knowledge generally available to one of ordinary skill in the art would lead that individual to combine the relevant teachings of the references.” *In re Fritch*, 972 F.2d 1260, 1265 (Fed. Cir. 1992). Determination of obviousness cannot be based on the hindsight combination of components selectively culled from the prior art to fit the parameters of the patented invention. *ATD Corp. v. Lydall, Inc.*, 159 F.3d 534, 546 (Fed. Cir. 1998). Furthermore, the teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, not in applicant’s disclosure. *In re Vaeck*, 947 F.2d 488, 20 U.S.P.Q.2d 1438 (Fed. Cir. 1991).

The only discussion or mention of the read-write memory in Bacher is that a “local bus LB is also connected to a read memory ROM and to a read-write memory RAM.” Bacher further provides that the “non-resistant information are thereby essentially stored in the read-write memory RAM and the programs that monitor and coordinate the base station BS are essentially stored in the read memory ROM.” Bacher’s mention of a read-write memory without further discussion of how it is used or beneficial to the communication system is not an objective

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teaching that would lead an individual to combine the read-write memory with the teachings of Schellinger, Sawyer, and Masuda to arrive at the claimed invention.

Furthermore, it is not clear why using a readable/writable memory provides more variety to the user or why combining such an element with the teachings of Schellinger, Sawyer, and Masuda would provide more flexibility for the wireless communication system as stated by the Examiner. When the motivation to combine the teachings of the references is not immediately apparent, it is the duty of the examiner to explain why the combination of the teachings is proper. *Ex parte Skinner*, 2 U.S.P.Q.2d 1788 (Bd. Pat. App. & Inter. 1986). Appellant respectfully submits that there is no objective teaching in the prior art or knowledge generally available to one of ordinary skill in the art that would lead that individual to combine the relevant teachings of the references to arrive at the method of Claim 12 or the system of Claim 20.

#### **11. Claims 12 And 20 Are Thus Patentable**

The combination of Schellinger, Sawyer, Masuda, and Bacher fails to teach or suggest every element as recited in Claim 12. Therefore, Appellant respectfully submits that Claim 12 is in condition for allowance.

Furthermore, the Examiner has done no more than *attempt* to point to the features of the claimed invention in different individual references (**four**) in the prior art without any real attempt to show a suggestion for combining the features. Appellant notes that “virtually all [inventions] are combinations of old elements.” (internal quotes omitted).

“If identification of each claimed element in the prior art were sufficient to negate patentability, very few patents would ever issue. Furthermore, rejecting patents solely by finding *prior art corollaries* for the claimed elements would permit an examiner to use the claimed invention itself as a blueprint for piecing together elements in the prior art to defeat the patentability of the claimed invention.”

*In re Rouffet*, 47 U.S.P.Q.2d 1453, 1457 (Fed. Cir. 1998) (*emphasis added*).

Appellant respectfully submits that the Examiner has simply selected features of the prior art using Appellant’s claimed invention as a blueprint.

As amended Claim 20 recites limitations similar to those recited in the method of Claim 12, the arguments with respect to Claim 12 similarly apply to Claim 20, and thus, Claim 20 is respectfully submitted for further review as patentable subject matter.

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**12. Claims 13-19 And 22 Are Thus Patentable**

Because Claims 13-19 and 22 depend from Claims 12 and 20, pursuant to 35 U.S.C. § 112, ¶ 4, they incorporate by reference all the limitations of the claim to which they refer. It is therefore submitted that these claims are in condition for allowance at least for the reasons expressed with respect to the independent claims, and for their other features.

**B. Claim 25 is Patentable Over the Combination of Schellinger, Sawyer, Masuda, and Bacher**

In regard to Claim 25, the Examiner recited, verbatim, the bases for rejection of Claims 12, 13, and 20 and did not address the particular features recited in Claim 25. In particular, the Examiner's discussion of Claim 25 did not address the "secret key" or the "generating" features recited in the claim and instead provided arguments with respect to the "processing" features recited in Claim 12 as examined. Specifically, the Examiner failed to point to any teaching or suggestion in the prior art of record of "generating a random number and generating a first authentication result based on the random number and the secret key using a ciphering algorithm at the base station; [and] generating a second authentication result based on the random number and the secret key using a ciphering algorithm at the access-authorized mobile terminal" as recited in Claim 25. Furthermore, the prior art of record fails to teach these features of the claim.

Sawyer fails to teach "generating a random number and generating a first authentication result based on the random number and the secret key using a ciphering algorithm at the base station", wherein the "secret key is stored on the first identification module and a second identification module of a mobile terminal authorized to access the public cellular communication system" as recited in Claim 25. The passage in Sawyer cited by the Examiner in support of the teaching of this element of the claim, i.e., col. 6, lines 38-67, discusses the conditions upon which a mobile station is instructed to register with a local system. There is no discussion of generation of a first authentication result as recited in Claim 25.

Sawyer also fails to teach or suggest "authenticating the mobile terminal with regard to the base station through the first authentication result and the second authentication result". As stated in the Office Action, Sawyer fails to teach "processing data ... so as to generate a second authentication result." *Final Office Action at page 4, para. 2.* Thus, Sawyer cannot teach

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“authenticating ... through the first authentication result *and the second authentication result*” as recited in Claim 12.

Furthermore, Sawyer fails to teach that “the base station fulfills the same functions and tasks with respect to access control and authentication as a home location register and, respectively, an authentication center of the public cellular communication system ...”, as recited in Claim 25. The system described by Sawyer does not facilitate *authentication* but rather *registration*, and the registration functions are described as performed generally by the “system” (see col. 4, lines 23-50), and specifically by the mobile station switching center MSC for each system (see col. 12, lines 9-60; Fig. 7A), *not the base station*.

In regard to Masuda, the reference fails to teach a cellular communication system, wherein the system described by Masuda is more appropriately a cordless telephone system for home and business use and not a cellular communication system as recited in the claims. See *Masuda at col. 6, lines 41-43*. Therefore, because Masuda does not teach a cellular communication system, Masuda *cannot* teach that “a secret key is stored on ... a second *identification module of a mobile terminal authorized to access the public cellular communication system*”, nor “generating a second authentication result based on the random number and the secret key using a ciphering algorithm at the access-authorized mobile terminal”.

In addition, Bacher fails to cure these deficiencies of Masuda and simply teaches that the read-write memory RAM is implemented at a base station of a multi-cellular wireless telephone system. As recognized by the Examiner, Schellinger also fails to teach the features missing from Masuda and Sawyer.

Thus, as neither Schellinger, Masuda, Sawyer, nor Bacher, either alone or in combination, teach or suggest every element as recited in Claim 25, Appellant respectfully submits that Claim 25 is patentable over the combination of Schellinger, Sawyer, Masuda, and Bacher.

Furthermore, Appellant respectfully submits that there is no motivation to combine the teachings of Schellinger, Sawyer, Masuda, and Bacher as suggested by the Examiner, nor has the Examiner pointed to any teaching or suggestion in the prior art to make such a combination as discussed in reference to Claims 12 and 20.

II. Rejections under 35 U.S.C. § 103(a) U.S. Patent Nos. 6,360,091; 6,134,438; 5,748,621; 5,617,467; and 6,167,271.

**C. Claims 21, 23, and 24 are Patentable over the Combination of Schellinger, Sawyer, Masuda, Bacher, and Parker**

In regard to Claim 21, the Examiner recognized that “Schellinger modified by Sawyer, Masuda and Baker fails to teach that the wireless communication system wherein the first subscriber identity module is a chip card configured for a predetermined standard.” The Examiner stated, however, that “Parker teaches a system reading and writing from and to, respectively, at least a first subscriber identity module (SIM) card through a read and write unit of the base station, wherein sections data of the first SIM used in the base station are identical to sections of data stored on a second SIM card of an access authorized mobile terminal (col 9 lines 60-67, col 10 lines 1-10).” *Final Office Action at page 9, para. 3.*

Parker describes an interface between cellular and wired networks with enhanced subscriber mobility, wherein a Terminal Adapter Controller (TAC) 34 functions as a Base Transceiver Station (BTS) with wired connections to a GSM Wired Terminal Adapter (TA) 36, *which functions like a mobile subscriber. Col. 3, lines 45-53; Fig. 1.* The TA 36 includes a SIM interface 122 and a switched SIM interface 125, a SIM 111a plugged into the SIM interface 122, and a SIM 11b plugged into the switched SIM interface 125. *Col. 5, lines 10-15; col. 7, lines 10-22; Fig. 3.* The switched SIM interface 125 connects to an activate SIM switch 150 via a switch circuit interface 152, which carries an on/off or activate/deactivate/signal. *Col. 7, lines 32-35; Fig. 3.*

As illustrated in Figures 1 and 3 and discussed in Parker, the SIM interface is part of the GSM Wired Terminal Adapter (TA) 36, which functions like a mobile subscriber and not a base station. Furthermore, Parker defines a SIM card as a “‘smart’ card inserted into a *mobile station.*” *Col. 3, lines 11-13* (emphasis added). Applicant notes that the activate SIM switch 150 can be placed in many locations, including an MS cradle or cordless telephone base station, however the activate SIM switch 150 is not the same as a SIM interface. *Col. 7, lines 54.* Thus, Parker fails to teach or suggest reading and writing from and to a SIM card through a read and write unit of the base station.

In regard to Claims 23 and 24, the Examiner recited bases similar to those recited in regard to Claim 21 in regard to the teachings of the prior art references. The Examiner further stated that “[t]herefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the above teaching of Parker with Schellinger cordless Base Station

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modified by Sawyer, Masuda and Baker, in order provide converting mobility events in the wired telephone system to cellular network signaling, and standard interfaces for analog and ISDN BRI telephone sets, so the subscriber may be able to use their existing telephone sets.” *Final Office Action at page 9, para. 3 – page 10, para. 1.*

There must be a *teaching or suggestion within the prior art*, or within the general knowledge of a person of ordinary skill in the field of the invention, to look to particular sources of information, to *select particular elements*, and to combine them *in the way they were combined by the inventor*. *ATD Corp. v. Lydall, Inc.*, 48 U.S.P.Q.2d1321, 546 (Fed. Cir. 1998) (*emphasis added*).

As discussed above in reference to Claims 12 and 20, the Examiner has failed to point to any teaching or suggestion in the prior art of record to combine the teachings of Schellinger, Sawyer, Masuda, and Bacher as suggested by the Examiner. Furthermore, Appellant respectfully submits that the Examiner has similarly failed to point to any teaching or suggestion in either Schellinger, Sawyer, Masuda, Bacher, or Parker to combine the teachings of Parker selected by the Examiner with those selected from Schellinger, Sawyer, Masuda, and Bacher. In support of the combination of these **five** references, the Examiner has again identified a feature of the suggested combination as the suggestion or teaching to combine the selected features of the references. The Examiner has failed to point to a teaching or suggestion within the prior art to select particular elements from reference teachings and combine those elements in the manner claimed.

Because Claims 21, 23, and 24 depend from Claims 12 and 20, pursuant to 35 U.S.C. § 112, ¶ 4, they incorporate by reference all the limitations of the claim to which they refer. It is therefore submitted that these claims are in condition for allowance at least for the reasons expressed with respect to the independent claims, and for their other features.

III Rejections under 35 U.S.C. § 103(a) over U.S. Patent Nos. 6,360,091; 6,134,438; and 5,617,467.

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**D. Claim 26 is Patentable over the Combination of Schellinger, Sawyer, Masuda, and Bacher**

**1. The Examiner's Contention**

In regard to Claim 26, the Examiner stated that "Schellinger teaches a system for the operation of a mobile terminal of a mobile communication system with a base station that is connected to a public fixed network and that is compatible at an air interface with the public cellular communication system 107 that has at least one authentication function cordless communication system (see figure 1, col 6 lines 56-67, col. 3, lines 32-40) ... ."

The Examiner recognized that "Schellinger fails to teach a system wherein transmitting a specific identification periodically from the base station to indicate presence and readiness for operation during a stand by mode; reading and writing from to sections of data of the first identification module ... , wherein sections of data of the identification module used in the base station are identical to sections of data on a second identification module of mobile terminal authorized to access the public cellular communication system; processing data read from the first identification module ... ; processing data read from the second identification module ... ; authenticating the mobile terminal ... ."

The Examiner stated that "Examiner takes official notice that transmitting a specific identification periodically from the base station to indicate presence and readiness for operation during a stand by mode is well known in the art." The Examiner further stated that "[t]herefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the above teaching with Schellinger, in order to provide more flexibility for the wireless communication system."

The Examiner further stated that "Sawyer teaches a system wherein sections of data of the first identification module of the base station, wherein sections of data of the first identification module used in the base station are identical to sections of data on a second identification module of mobile terminal authorized to access the public cellular communication system (col 4 lines 23-50); processing data read from the first identification module through software implemented in the base station, so as to generate a first authentication result (mobile) (col 4 lines 23-50); processing data read from the second identification mobile, [sic] generated at the base station, so as to generate a second authentication result (col 4 liens 23-50); authenticating the mobile terminal with regard to the base station through the first authentication result (mobile) and the

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second authentication result (col 4 lines 23-50), wherein the base station fulfills the same functions and tasks with respect to access control and authentication as the home location register, and respectively, the authentication center of the mobile communication system, and wherein the authentication is performed without accessing a home location register in a mobile communication system (col 4 lines 23-50).” *Final Office Action at page 12, para’s 2-5.*

The Examiner further recognized that “Schellinger modified by Sawyer fails to teach a read/write unit within a base station, which is configured to read and write information from and to, and processing data read from the identification module through software implemented in the base station.” *Final Office Action at page 12, para. 6.* The Examiner also stated, however, that “Bacher teaches a read/write unit within a base station configured to read and write information from and to, and processing data read from the identification module through software implementing in the base station (see figure 1, read/write memory col 5 lines 45-55).” *Final Office Action at page 12, para. 6 – page 13, para. 1.* The Examiner argued that “using readable/writable memory instead of readable memory within the base station, provides more variety to the user, for example enabling the user to use multiple handsets with one base.” *Final Office Action at page 13, para. 1.* The Examiner further argued that “it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the above teaching of Bacher with Schellinger modified by Sawyer, in order to provide more flexibility for the wireless communication system.” *Id.*

The Examiner argued that “[t]herefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the above teaching Masuda with Schellinger cordless Base Station, in order to provide authentication method which does not require any means for storing an authentication random number corresponding each mobile station and also provide an advance authentication calculation result.”

**2. Official Notice Without Documentary Evidence to Support the Examiner’s Conclusion is Inappropriate**

To avoid having the Examiner’s statements with regard to the transmission of “a specific identification periodically from the base station to indicate presence and readiness for operation during a stand by mode” as being well known in the art become accepted prior art (*see M.P.E.P. § 2144.03*), Appellant requested that the Examiner produce prior art in support of these statements if the rejection was to be maintained on this basis. However, the Examiner did not



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respond to Appellant's request, nor did the Examiner include an explanation as to why Appellant's request was inadequate as required. *M.P.E.P. § 2144.03(C)*.

Official notice unsupported by documentary evidence should only be taken by the examiner where the facts asserted to be well-known, or to be common knowledge in the art are capable of instant and unquestionable demonstration as being well-known. *M.P.E.P. § 2144.03(A)*.

Appellant respectfully submits that "transmitting a specific identification periodically from the base station to indicate presence and readiness for operation during a standby mode", wherein the base station is "connectable to a public fixed network and compatible at an air interface with the public cellular communication system" is not capable of instant and unquestionable demonstration as being well-known, nor has the Examiner pointed to any relevant teaching in the record.

**3. Sawyer Fails to Teach First and Second Identification Modules**

Sawyer fails to teach first and second identification modules, wherein "sections of data of the first identification module used in the base station are identical to sections of data stored on [the] second identification module of a mobile terminal ... ." The passage in Sawyer cited by the Examiner, i.e., col. 4, lines 23-50, in support of a teaching of this feature describes a registration process between a mobile station and a communication system. There is no mention of "identification modules" or any other feature relevant to the claimed feature. In addition, there is no mention in Sawyer that any of the base stations 123, 123 described by Sawyer include an identification module, nor that the mobile station 125 includes an identification module. *See, e.g., Sawyer at col. 9, l. 60 – col. 10, l. 42; Fig. 4.*

**4. Sawyer Fails to Teach Processing Data in the Manner Claimed**

As discussed above in reference to Claim 12, Sawyer describes a system for use during the registration of mobile stations which allows support of local control features in a newly accessed system. A mobile station sends a registration message to the system, wherein the message comprises first and second identification codes. The system determines whether the first identification code is contained in a list stored at a database within the system, and if the first identification code is not on the list the mobile station does not support common local control features. However, if the first identification code is on the list, the system determines whether the value of the second identification code is within a range of numbers associated with

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the first identification code and also stored within the list. If the second identification code is within the specified range, this indicates that the mobile station and system support common local control features. *Sawyer at col. 4, lines 24-49.*

Sawyer fails, however to describe processing data read from a first identification module at a base station through software implemented in the base station so as to generate a first authentication result, and processing data read from a second identification module so as to generate a second authentication result at the mobile station. There is no discussion in Sawyer of processing data in this manner.

Furthermore, Sawyer fails to teach that “the base station fulfills the same functions and tasks with respect to access control and authentication as a home location register and, respectively, an authentication center of the public cellular communication system, and wherein the authentication is performed without accessing a home location register in the public cellular communication system”, as recited in Claim 26. The system described by Sawyer does not facilitate *authentication* but rather *registration*, and the registration functions are described as performed generally by the “system” (*see col. 4, lines 23-50*), and specifically by the mobile station switching center MSC for each system (*see col. 12, lines 9-60; Fig. 7A*), *not the base station.*

**5. There Is No Motivation to Combine Sawyer**

Appellant also respectfully submits that there is no motivation or teaching in either Schellinger or Sawyer to combine the teachings of Sawyer and Schellinger as suggested by the Examiner. The Examiner did not point to *any* teaching or suggestion for combining the selected features of Sawyer with those of Schellinger in support of the rejection of Claim 26.

In addition, Appellant respectfully submits that the Examiner has merely selected features from Sawyer to combine with Schellinger using Appellant’s claims as a template. Thus, Appellant respectfully submits that there is no teaching or suggestion to combine the relevant teachings of Sawyer with those of Schellinger to arrive at the combination recited by the Examiner.

**6. Bacher Fails to Teach a Read and Write Unit As Configured**

As discussed in reference to Claim 12, Bacher fails to teach reading and writing from and to a first subscriber identity module through a read and write unit of a base station. Appellant respectfully submits that the “read-write memory RAM” described by Bacher (*col. 5, lines 50-*

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55) cannot be properly construed as a read and write unit for reading and writing to a subscriber identity module. Furthermore, Bacher fails to cure the deficiencies of Schilling and Sawyer.

Thus, as the combination of Schellinger, Sawyer, Masuda, and Bacher fails to teach or suggest every element as recited in Claim 26, Appellant respectfully submits that Claim 26 is in condition for allowance.

**7. There Is No Motivation to Combine Bacher**

Appellant also respectfully submits that there is no motivation or teaching in either Schellinger, Sawyer, or Bacher to combine the teachings of Bacher with the other two references as suggested by the Examiner. The Examiner argued that “[u]sing readable/writable memory instead of readable memory within the base station, provides more variety to the user, for example enabling the user to use multiple handsets with one base”, and that “[t]herefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the above teachings of Bacher with Schellinger modified by Sawyer, in order to provide more flexibility for the wireless communication system.”

It is not clear why using a readable/writable memory provides more variety to the user or why combining such an element with the teachings of Schellinger and Sawyer would provide more flexibility for the wireless communication system as stated by the Examiner. Appellant respectfully submits that there is no objective teaching in the prior art or knowledge generally available to one of ordinary skill in the art that would lead that individual to combine the relevant teachings of the references to arrive at the method of Claim 26.

Thus, as the Examiner has failed to point to any teaching or suggestion to combine the features of Schellinger, Sawyer, Masuda, and Bacher as suggested by the Examiner, Appellant respectfully submits that Claim 26 is in condition for allowance.

IV Rejections under 35 U.S.C. § 103(a) over U.S. Patent Nos. 6,167,271; and 5,748,621.

**E. Claim 27 is Patentable over Parker and Sawyer**

**1. The Examiner’s Contention**

The Examiner has rejected Claim 27 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,167,271 to Parker, et al. in view of U.S. Patent No. 6,134,438 to Sawyer, et al. Appellant notes that the Final Office Action recites on page 13, numbered para. 5, that Claim 27

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is rejected based on the combination of Parker and U.S. Patent No. 5,748,621 to Masuda, et al., however, the Examiner cited Sawyer in support of the rejection, without citation to Masuda. Therefore, Appellant has recognized the recitation of Masuda as an error and provides arguments with respect to the combination of Parker and Sawyer.

Regarding Claim 27, the Examiner stated that "Parker teaches a system for the operation of a mobile terminal of a mobile communication system with a base station that is connected to a public fixed network (col. 8, lines 2-4) and that is compatible at an air interface with the **cellular** communication system that has at least one authentication function cordless communication system (col. 1, lines 44-63, col. 7, lines 51-60) comprising: reading and writing from and to, respectively, at least a first subscriber identity module (SIM) card through a read and write unit of the base station, wherein sections data of the first SIM used in the base station are identical to sections of data stored on a second SIM card of mobile terminal **authorized to access the cellular communication system** (col. 9, lines 60-67, col. 10, lines 1-10)." *Final Office Action at page 13, para's 3-4 (emphasis in original).*

The Examiner recognized that "Parker fails to teach processing data read from the first SIM card through software implemented in the base station to generate a first authentication result", and the authenticating and operating processes recited in Claim 27. However, the Examiner stated that "Sawyer teaches processing data read from the first identification module through software implemented in the base station to generate a first authentication result", and the authenticating and operating processes recited in Claim 27. The Examiner therefore argued that "it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the above teaching of Sawyer with Parker, in order to provide a digital mobile communication system which can synchronize timings to start a personal station-to-personal-station direct communication, and can improve the efficiency of using a frequency by eliminating time when communications cannot be made." *Final Office Action at page 15, para. 2.*

## **2. The Legal Standard**

To establish a *prima facie* case of obviousness, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings, and the prior art references, when combined, must teach or suggest all the claim limitations. M.P.E.P. § 2143. Also, the teaching or suggestion to make the claimed combination and the reasonable expectation

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of success must both be found in the prior art, not in applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 U.S.P.Q.2d 1438 (Fed. Cir. 1991).

**3. Parker Fails To Teach The Read And Write Unit Of The Base Station**

Parker describes an interface between cellular and wired networks with enhanced subscriber mobility, wherein a Terminal Adapter Controller (TAC) 34 functions as a Base Transceiver Station (BTS) with wired connections to a GSM Wired Terminal Adapter (TA) 36, *which functions like a mobile subscriber*. Col. 3, lines 45-53; Fig. 1. The TA 36 includes a SIM interface 122 and a switched SIM interface 125, a SIM 111a plugged into the SIM interface 122, and a SIM 11b plugged into the switched SIM interface 125. Col. 5, lines 10-15; col. 7, lines 10-22; Fig. 3. The switched SIM interface 125 connects to an activate SIM switch 150 via a switch circuit interface 152, which carries an on/off or activate/deactivate/signal. Col. 7, lines 32-35; Fig. 3.

As illustrated in Figures 1 and 3 and discussed in Parker, the SIM interface is part of the GSM Wired Terminal Adapter (TA) 36, which functions like a mobile subscriber and not a base station. Furthermore, Parker defines a SIM card as a "'smart' card inserted into a *mobile station*." Col. 3, lines 11-13 (emphasis added). Appellant notes that the activate SIM switch 150 can be placed in many locations, including an MS cradle or cordless telephone base station, however the activate SIM switch 150 is not the same as a SIM interface. Col. 7, lines 54. Thus, Parker fails to teach or suggest reading and writing from and to a SIM card through a read and write unit of the base station.

**4. Sawyer Fails To Teach Processing Data In The Manner Claimed**

In reference to the discussion of Claim 12 above, Appellant respectfully submits that Sawyer does not teach "processing data read from the first SIM card through software implemented in the base station" as recited in Claim 27. Sawyer fails to teach either an identification module or a SIM card at the base station and therefore cannot teach processing data read from an identification module or a SIM card. Furthermore, as Claim 27 recites features similar to those recited in Claims 12 and 21, Appellant's arguments with respect to Claims 12 and 21 similarly apply to Claim 27.

Thus, as neither Parker nor Masuda, either alone or in combination, teach or suggest every element as recited in Claim 27, Appellant respectfully submits that Claim 27 is in condition for allowance.

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**F. Conclusion**

In view of the foregoing arguments, Appellant respectfully submits that Claims 12-27 are patentable over the prior art of record.

Please charge any additional fees, including any fees for additional extension of time, or credit overpayment to Deposit Account No. 11-1410.

Respectfully submitted,

KNOBBE, MARTENS, OLSON & BEAR, LLP



Dated: March 9, 2006

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## **VIII. CLAIMSAPPENDIX**

(Claims as finally rejected)

Claims 1-11: canceled

12. (previously presented) A method of operating a cordless communication system comprising a mobile terminal of a public cellular communication system and having a base station which is connectable to a public fixed network and compatible at an air interface with the cellular communication system that has at least one authentication function, comprising:

reading and writing from and to, respectively, at least a first subscriber identity module through a read and write unit of the base station, wherein sections of data of the first subscriber identity module used in the base station are identical to sections of data stored on a second subscriber identity module of a mobile terminal authorized to access the public cellular communication system;

processing data read from the first subscriber identity module through software implemented in the base station, using a random number generated at the base station, so as to generate a first authentication result;

processing data read from the second subscriber identity module, using the random number generated at the base station, so as to generate a second authentication result;

authenticating the mobile terminal with regard to the base station through the first authentication result and the second authentication result, wherein the base station fulfills the same functions and tasks with respect to access control and authentication as a home location register and, respectively, an authentication center of the public cellular communication system, and wherein the authentication is performed without accessing a home location register in the public cellular communication system; and

operating the mobile terminal through the public fixed network if the authentication has been successful.

13. (previously presented) The method of Claim 12, further comprising blocking authorization of the mobile terminal through a network carrier of the public cellular communication system to log into the base station of the cordless communication system.

14. (previously presented) The method of Claim 12, further comprising storing other data on the subscriber identity module in a tamper-proof manner, the other data including

allowed frequencies, a maximum permitted output powers for the base station and the mobile terminal, allowed services, and initialization parameters which a network carrier desires to influence and which constitute a general framework for the operation of the base station of the cordless communication system.

15. (previously presented) The method of Claim 12, further comprising operating the base station of the cordless communication system so that the air interface operates in a frequency spectrum of the public cellular communication system.

16. (previously presented) The method of Claim 12, wherein the transmitted data is encrypted at the air interface.

17. (previously presented) The method of Claim 12, further comprising programming a timer within the base station to a predetermined time by a network carrier, and automatically resetting the timer by a subscriber if an authorized use occurs, wherein the base station, if not used after the predetermined time has lapsed, loses authorization to operate a transmitter at frequencies assigned to the public cellular communication system.

18. (previously presented) The method of Claim 17, further comprising restarting the base station if the base station is automatically shut off due to lapse of the predetermined time.

19. (previously presented) The method of Claim 18, further comprising permitting said restarting of the base station only within a predefined time window.

20. (previously presented) A cordless communication system for the operation of a mobile terminal of a cellular communication system with a base station that is connected to a public fixed network and that is compatible at an air interface with the cellular communication system that has at least one authentication function, comprising:

a read/write unit within a base station, the read/write unit configured to read and write information from and to, respectively, at least a first subscriber identity module, wherein sections of data of the first subscriber identity module used in the base station are identical to sections of data on a second subscriber identity module of a mobile terminal authorized to access the cellular communication system; and

software implemented in the base station for processing of data read from the first subscriber identity module and for authenticating the mobile terminal relative to the base station through the processed data based on the first subscriber identity module, wherein the base station fulfills the same functions and tasks with respect to access control and



authentication as the home location register and, respectively, the authentication center of the cellular communication system, by using the processed data based on the first subscriber identity module and an authentication result generated by processing data read from the second subscriber identity module, and wherein the authentication is performed without accessing a home location register in the cellular communication system.

21. (previously presented) The cordless communication system of Claim 20, wherein the first subscriber identity module is a chip card configured for a predetermined standard.

22. (previously presented) The cordless communication system of Claim 21, wherein the predetermined standard is selected from the group consisting of ISO ID-1, ID-000, DCS 1800, and PCS 1900.

23. (previously presented) The cordless communication system of Claim 20, wherein the second subscriber identity module is a chip card.

24. (previously presented) The method of Claim 12, wherein the second subscriber identity module is a chip card.

25. (previously presented) A method of operating a cordless communication system comprising a mobile terminal of a public cellular communication system and having a base station which is connectable to a public fixed network and compatible at an air interface with the public cellular communication system that has at least one authentication function, comprising:

reading and writing from and to, respectively, at least a first identification module through a read and write unit of the base station, wherein a secret key is stored on the first identification module and a second identification module of a mobile terminal authorized to access the public cellular communication system;

generating a random number and generating a first authentication result based on the random number and the secret key using a ciphering algorithm at the base station;

generating a second authentication result based on the random number and the secret key using a ciphering algorithm at the access-authorized mobile terminal;

authenticating the mobile terminal with regard to the base station through the first and second authentication results such that the mobile terminal authenticates directly with the base station, wherein the base station fulfills the same functions and tasks with respect to access control and authentication as a home location register and, respectively, an authentication center of the public cellular communication system, and wherein the

authentication is performed without accessing a home location register in the public cellular communication system; and

operating the mobile terminal through the public fixed network if the authentication has been successful.

26. (previously presented) A method of operating a cordless communication system comprising a mobile terminal of a public cellular communication system and having a base station which is connectable to a public fixed network and compatible at an air interface with the public cellular communication system that has at least one authentication function, comprising:

transmitting a specific identification periodically from the base station to indicate presence and readiness for operation during a standby mode;

reading and writing from and to, respectively, at least a first identification module through a read and write unit of the base station, wherein sections of data of the first identification module used in the base station are identical to sections of data stored on a second identification module of a mobile terminal authorized to access the public cellular communication system;

processing data read from the first identification module through software implemented in the base station so as to generate a first authentication result;

processing data read from the second identification module so as to generate a second authentication result;

authenticating the mobile terminal with regard to the base station using the first and second authentication results, wherein the base station fulfills the same functions and tasks with respect to access control and authentication as a home location register and, respectively, an authentication center of the public cellular communication system, and wherein the authentication is performed without accessing a home location register in the public cellular communication system; and

operating the mobile terminal through the public fixed network if the authentication has been successful.

27. (previously presented) A method of operating a cordless communication system comprising a mobile terminal of a public cellular communication system and having a base station which is connectable to a public fixed network and compatible at an air interface with the public cellular communication system that has at least one authentication function, comprising:

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reading and writing from and to, respectively, at least a first subscriber identity module (SIM) card through a read and write unit of the base station, wherein sections of data of the first SIM card used in the base station are identical to sections of data stored on a second SIM card of a mobile terminal authorized to access the cellular communication system;

processing data read from the first SIM card through software implemented in the base station, using a random number generated at the base station, so as to generate a first authentication result;

processing data read from the second SIM card, using the random number generated at the base station, so as to generate a second authentication result;

authenticating the mobile terminal with regard to the base station through the first authentication result and the second authentication result, wherein the base station fulfills the same functions and tasks with respect to access control and authentication as a home location register and, respectively, an authentication center of the public cellular communication system; and

operating the mobile terminal through the public fixed network if the authentication has been successful.

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**IX. EVIDENCE APPENDIX**

None

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**X. RELATED PROCEEDINGS APPENDIX**

None

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